Xiao Deming Form 4 May 14, 2012

FORM 4

OMB APPROVAL

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

OMB 3235-0287 Number:

Check this box if no longer subject to Section 16.

Washington, D.C. 20549

January 31, Expires: 2005

Form 4 or

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

Estimated average burden hours per response... 0.5

Form 5 obligations may continue. See Instruction

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section

30(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * Xiao Deming			2. Issuer Name and Ticker or Trading Symbol	5. Relationship of Reporting Person(s) to Issuer			
			MONOLITHIC POWER SYSTEMS INC [MPWR]	(Check all applicable)			
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year)	Director 10% OwnerX_ Officer (give title Other (specify			
6409 GUADALUPE MINES ROAD			05/10/2012	below) below) Pres. of MPS Asia Operations			
(Street)			4. If Amendment, Date Original	6. Individual or Joint/Group Filing(Check			
			Filed(Month/Day/Year)	Applicable Line) _X_ Form filed by One Reporting Person			
SAN JOSE, CA 95120				Form filed by More than One Reporting Person			
(City)	(State)	(7in)					

(City)	(State)	(Zip) Tabl	e I - Non-I	Derivative	Secur	rities Acq	uired, Disposed o	f, or Beneficial	ly Owned	
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transacti Code (Instr. 8)	4. Securities Acquired tion(A) or Disposed of (D) (Instr. 3, 4 and 5) (A) or			5. Amount of Securities Beneficially Owned Following Reported Transaction(s)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)	
Common Stock Common Stock	05/10/2012		Code V S <u>(1)</u>	Amount 1,383	(D)	Price \$ 20.87	(Instr. 3 and 4) 130,869 18,600	D I	by Spouse	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of	2.	3. Transaction Date		4.	5.	6. Date Exer		7. Title		8. Price of	9. Nu
Derivative	Conversion	(Month/Day/Year)	Execution Date, if	Transacti	orNumber	Expiration D	ate	Amou	nt of	Derivative	Deriv
Security	or Exercise		any	Code	of	(Month/Day/	Year)	Under	lying	Security	Secur
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivative	e		Securi	ties	(Instr. 5)	Bene
	Derivative				Securities			(Instr.	3 and 4)		Own
	Security				Acquired						Follo
					(A) or						Repo
					Disposed						Trans
					of (D)						(Instr
					(Instr. 3,						
					4, and 5)						
									Amount		
						Date	Expiration		or		
					Exercisable	Date	Title Number	Number			
						Excicisable	Date		of		
				Code V	(A) (D)				Shares		

Reporting Owners

Relationships Reporting Owner Name / Address

> Officer Director 10% Owner Other

Pres. of MPS Xiao Deming

6409 GUADALUPE MINES ROAD Asia SAN JOSE, CA 95120 **Operations**

Signatures

By: Saria Tseng For: 05/14/2012 Deming Xiao

**Signature of Reporting Person Date

Explanation of Responses:

- If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Shares sold to pay tax obligations resulting from the vesting of restricted stock units.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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